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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,729	12/12/2003	Walter Schwarzenbach	4717-9200	9739
28765	7590	04/28/2005	EXAMINER	
WINSTON & STRAWN LLP 1700 K STREET, N.W. WASHINGTON, DC 20006			NHU, DAVID	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 04/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No. 10/733,729	Applicant(s) SCHWARZENBACH ET AL.	
	Examiner David Nhu	Art Unit 2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
 4a) Of the above claim(s) 15-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 6-11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 60/448,124.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.



Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAIL ACTIONS

Election/Restrictions

1. Applicant's election of Group I (Claims 1-14) is acknowledge.

Claims 1-14 are remained for examination. Accordingly, claims 15-26 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Specifications

2. there is no description of layers 38 in figure 2A, layer 82 in figure 6, layer 40 in figure 3A, layer 50 in figure 3B, layer 62 in figure 3C.

Claims Objection

3. Claims 2, 11, "**can**" will not use in the claims.

Claim 5, "**the** entire thickness" lacks a clear antecedent basis.

Claim 6, "**the** non-masked portion" lacks a clear antecedent basis.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5, 12-14 are rejected under 35 U.S.C. 102 (b) as being anticipated by Sakaguchi et al (6,569,748 B1).

Art Unit: 2818

Regarding claim 1, Sakaguchi, (see figures 1A-1D, 2A-2F, 3A-3D, 4A-4D, 5A-5C, 6A-6C, col. 8-28, lines 1-67), teaches a method of making a semiconductor structure having a surface layer of a first material 12, a sub-surface layer 14f of a second layer 13, different material, and a supporting substrate 11, 15, which method comprises: selectively implanting atoms through the surface layer 14f and at least a portion of the sub-surface layer to render the first and second materials respective to removal by etching; etching at least that portion of the sub-surface layer through which atoms have been implanted (see figures 1A-1D, 4A-4D, col. 8, lines 1-67, col. 10, lines 18-65, col. 27, lines 51-67, col. 28, lines 1-9).

Regarding claims 2-5, 12, 13, 14, Sakauguchi, (see figures 1A-1D), also teaches providing the second material 13 to be one that is more susceptible to etching than the first material 12 so that it is removed more easily than the first material; the first material is a semiconductor material and the second material has properties sufficient to electrically insulate the first material so that the sub-surface layer 14f is an insulating layer 14; the first material of the surface layer is silicon and the atoms to be implanted are ions of hydrogen or ion of helium; the atoms are implanted through an entire thickness of the sub-surface layer; the etching is performed with an acid, wet and dry; wherein the material is silicon oxide, silicon nitride, diamond, sapphire...

Allowable Subject Matter

6. Claims 6-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Art Unit: 2818

Claims 6, 7, 10, 11 includes allowable subject matter since the prior made of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed limitations. Because Sakaguchi taken individually or in combination, does not teach the selective implantation of atoms is obtained by masking portion of the surface layer and implanting atoms in a zone that has a shape that corresponds with a non-masked portion of the surface layer; wherein the masking is applied to define an implantation zone of a predetermined shape; forming at least one hole in the surface layer to a depth that leads to the sub-surface layer, wherein the hole leads to a boundary of the implantation zone and an adjacent zone through which atoms have not been implanted so that the implanted one as well as a portion of a non-implanted zone is removed.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Sakaguchi'382, Henley'732, Sakaguchi'729, Sakaguchi'478, Sato'068 are cited as of interest

8. A shortened statutory period for response to this action is set to expired 3 (three) months and 0 (zero) day from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see 710.02 (b)).

9. Any inquiry concerning this communication on earlier communications from the examiner should be directed to David Nhu whose telephone number is (703) 306- 5796. The examiner can normally be reached on Monday-Friday from 7:30 AM to 5:00 PM. The examiner's supervisor, David Nelms can be reached on (703) 308-4910.

Art Unit: 2818

The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

David Nhu



April 25, 2005